It can be seen that a novel system has been disclosed in which an embolic coil is securely placed within an aneurysm with a catheter that is stabilized and is relatively simple in construction and easy to use. Although an illustrative embodiment of the invention has been shown and described, it is to be understood that various modifications and substitutions may be made by those skilled in the art without departing from the novel spirit and scope of the present invention. For example, as stated above an additional port could be used in communication with the balloon to purge air trapped in the balloon and body. Instead of a single lumen used for both the guidewire and the embolic coil delivery device, a guidewire lumen which communicates with the guidewire opening at the distal end and a separate delivery lumen which communicates with the side opening could be utilized. Further, in addition to the delivery of embolics, the system can be utilized to delivery guidewires, diagnostics and therapeutic agents via a delivery lumen. The multiple lumen body may be composed of polymers and/or metals and a balloon may be preformed and attached to the inflation lumen adjacent the distal end of the catheter or formed from the inflation lumen of the multiple lumen body. Other modifications may be made which fall within the scope of the following claims.

What is claimed:

1. A method for placing an embolic coil at a location within an aneurysm comprising the steps of:

providing a catheter having a proximal end and a distal end, a balloon adjacent to the distal end, and an inflation port at the proximal end

communicating via an inflation lumen with the balloon, a guidewire opening at the distal end and a spaced, side opening adjacent the distal end;

introducing the catheter into the vessel of a patient via a guidewire extending through the guidewire opening to generally align the side opening with the aneurysm;

inflating the balloon to stabilize the position of the catheter;

introducing an embolic coil deployment device from the proximal end of the catheter and through the side opening to deliver an embolic coil into the aneurysm;

deflating the balloon; and

thereafter withdrawing the catheter from the patient's vessel.

2. A method for placing an embolic coil at a location within an aneurysm comprising the steps of:

providing a catheter having a proximal end and a distal end, a balloon adjacent the distal end, an inflation port at the proximal end communicating via an inflation lumen with the balloon, a delivery port at the proximal end communicating with a delivery lumen, a guidewire opening at the distal end communicating with the delivery lumen, and a side opening adjacent the distal end also communicating with the delivery lumen;

preloading the catheter with a guidewire extending from the delivery port through the delivery lumen and distal of the guidewire opening;

thereafter introducing the catheter into the vessel of a patient to generally align the side opening with the aneurysm;

inflating the balloon to stabilize the position of the catheter;

thereafter, withdrawing the guidewire and introducing an embolic coil deployment device into the delivery lumen and through the side opening to deliver an embolic coil into the aneurysm;

deflating the balloon; and

thereafter withdrawing the catheter from the patient's vessel.

3. A method for placing a medical agent at a location within a patient's vessel, comprising the steps of:

providing a catheter having a proximal end and a distal end, a balloon adjacent to the distal end, an inflation port at the proximal end communicating via an inflation lumen with the balloon, a delivery port at the proximal end communicating with a delivery lumen, a guidewire opening at the distal end communicating with the delivery lumen, and a side opening adjacent to the distal end also communicating with the delivery lumen;

preloading the catheter with a guidewire extending from the delivery port through the delivery lumen and distal of the guidewire opening;

thereafter introducing the catheter into the vessel of a patient to generally align the side opening with the location to be treated;

inflating the balloon to stabilize the position of the catheter;

thereafter withdrawing the guidewire and introducing the medical agent into the delivery lumen and through the side opening whereby it is placed in the location to be treated;

deflating the balloon; and

thereafter withdrawing the catheter from the patient's vessel.

4. A method as defined in claim 3, in which said medical agent comprises an embolic coil.

5. A method as defined in claim 3, in which said medical agent comprises a therapeutic agent.

6. A method as defined in claim 3, in which said medical agent comprises medicament.

7. A method as defined in claim 3, in which said medical agent comprises a diagnostic agent.

8. A method as defined in claim 3, in which said medical agent comprises an embolic agent.

9. A method as defined in claim 8, in which said embolic agent is selected from the group consisting of liquid embolic agents, biocompatible polymer-solvent combinations, biocompatible polymers and other embolizing compositions.

10. A balloon catheter which comprises:

a catheter body having a proximal end and a distal end;

a balloon adjacent the distal end;

an inflation port at the proximal end;

the catheter body defining an inflation lumen;

said inflation port communicating via the inflation lumen with the balloon;

a delivery port at the proximal end;

said body defining a delivery lumen separate from said inflation lumen;

a guidewire opening at the distal end communicating with the delivery lumen;

a side opening adjacent the distal end, spaced from the guidewire opening, and communicating with the delivery lumen;

said balloon being substantially radially aligned with said side opening and substantially oppositely positioned on the catheter with respect to the side opening.